

REMARKS

Favorable consideration is respectfully requested in view of the foregoing amendments and following remarks.

I. CLAIM STATUS AND AMENDMENTS

Claims 1-26 were pending in this application when last examined.

Claims 1, 2, 6-9, 18, 19, 22 and 23 were examined on the merits and stand rejected.

Claims 3-5, 10-17, 20, 21 and 24 were objected to for depending upon a rejected base claim but were indicated as allowable if rewritten in independent form.

Claims 25 and 26 have been indicated as allowed.

Claims 1 and 2 are amended to clarify the claimed invention.

No new matter has been added.

II. CLAIM OBJECTION

On page 2 of the Office Action, claims 3-5, 10-17, 20 and 21 were objected to for being dependent upon a rejected base claim. For the reasons noted below, Applicants respectfully contend that the rejected base claims are allowable and therefore this objection is overcome.

III. OBVIOUSNESS REJECTION

On pages 3-4, claims 1, 2, 6-9, 18, 19, 22 and 23 were rejected under 35 U.S.C. § 103(a) as obvious over Pei et al. Applicants respectfully traverse this.

(1) Feature contributing to the improvement of the claimed invention

The electroporation method of present claim 1 comprises step (A) of loading a nucleic acid onto the surface of an electrode; step (B) of allowing cells to adhere onto the surface of the obtained nucleic acid-loaded electrode; and step (C) of applying electric pulses to the adhering cells.

The improvement of the present invention lies in step (B), which achieves electroporation wherein electric pulses are applied to cells adhering onto the surface of nucleic acid-loaded electrode.

The Examiner states that it would have been obvious to one of ordinary skill in the art to have employed the multilayer DNA/PDDA film of Pei for electroporation, since Pei discloses at page 463, right column, first full paragraph “It is of crucial importance to control the adsorption and assembly of DNA to oppositely charged polymers, since cationic polymers have been tested for possible application as genetic support materials in gene transfection.”

However, Pei neither teaches nor suggests step (B) of the present invention.

(2) Effect of the invention

Further, as shown in the Declaration under 37 CFR 1.132 attached hereto (Attachment A), the claimed invention achieves unexpected and more excellent effect by the use of step (B) in comparison with the cited reference Pei.

In particular, the gene expression of living cells of electroporation wherein electric pulses are applied to cells adhering onto the surface of nucleic acid-loaded electrode according to the claimed invention is 4-times higher than that of electroporation wherein electric pulses are applied to cells suspended in a medium according to the cited reference Pei, which lacks step (B).

Thus, Applicants note that (1) the cited reference fails to teach or suggest adhering cells to the electrode and (2) fails to teach or suggest the surprising and unexpected increase in gene expression in living cells wherein the cells are adhering onto the surface of the nucleic acid-loaded electrode. In other words, the cited reference fails to teach each limitation of the rejected claims and fails to teach or suggest the unexpected improvement of the claimed method.

Thus, for the above-noted reasons, this rejection is untenable and should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and early notice to that effect is hereby requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact the undersigned attorney at the telephone number below.

Respectfully submitted,

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